

Title (en)

MULTI-PARAMETRIC SENSOR WITH BRIDGE STRUCTURE

Title (de)

MULTIPARAMETRISCHER SENSOR MIT BRÜCKENSTRUKTUR

Title (fr)

CAPTEUR À PARAMÈTRES MULTIPLES AVEC STRUCTURE DE PONT

Publication

EP 3315956 A1 20180502 (EN)

Application

EP 16196586 A 20161031

Priority

EP 16196586 A 20161031

Abstract (en)

A sensor for detecting and/or analysing a gas. The sensor comprises a substrate (1), a recess or opening (2) arranged in the substrate (1), a first bridge structure (3a) and a second bridge structure (3b). The first bridge structure (3a) and the second bridge structure (3b) extend over said recess or opening (2) and are anchored in the substrate (1). The first bridge structure (3a) forms a first hotplate (6a) and comprises a first patch (8a) of sensing material, in particular of a metal oxide material, arranged on the first hotplate (6a), electrodes (30, 31) adapted to measure an electrical property of the first patch (8a) and a heater (20) adapted to heat the first hotplate. The second bridge structure (3b) comprises a temperature sensor (34). The sensor provides a first operation mode configured to perform a measurement of an electrical property of the first patch (8a) and a second operation mode configured to operate the second bridge structure (3b) in a sensing mode to perform a measurement of a thermal property of the gas.

IPC 8 full level

G01N 27/12 (2006.01); **G01N 27/18** (2006.01)

CPC (source: EP US)

G01N 27/121 (2013.01 - US); **G01N 27/123** (2013.01 - US); **G01N 27/128** (2013.01 - EP US); **G01N 27/18** (2013.01 - EP US); **H05B 3/22** (2013.01 - US)

Citation (applicant)

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- EP 2278308 A1 20110126 - NGK SPARK PLUG CO [JP]
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- [XYI] MULLER G ET AL: "A MEMS toolkit for metal-oxide-based gas sensing systems", THIN SOLID FILMS, ELSEVIER, AMSTERDAM, NL, vol. 436, no. 1, 22 July 2003 (2003-07-22), pages 34 - 45, XP004431389, ISSN: 0040-6090, DOI: 10.1016/S0040-6090(03)00523-6

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Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3315956 A1 20180502; CN 110036286 A 20190719; JP 2019537005 A 20191219; US 10942141 B2 20210309; US 2019293590 A1 20190926; WO 2018078165 A2 20180503; WO 2018078165 A3 20180607

DOCDB simple family (application)

EP 16196586 A 20161031; CN 201780075230 A 20171030; EP 2017077806 W 20171030; JP 2019522865 A 20171030; US 201716346205 A 20171030